



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/632,235	08/04/2000	Allan Tzungren Tzeng	SUN-P4497	1869
25920	7590	11/29/2004	EXAMINER	
MARTINE & PENILLA, LLP 710 LAKEWAY DRIVE SUITE 170 SUNNYVALE, CA 94085			DO. CHAT C	
			ART UNIT	PAPER NUMBER
			2124	

DATE MAILED: 11/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/632,235

Applicant(s)

TZENG ET AL.

Examiner

Chat C. Do

Art Unit

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 August 2004 and 13 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This communication is responsive to Amendment, filed 08/13/2004.
2. Claims 1-7 are pending in this application. Claims 1 and 4-7 are independent claims. In Amendment A, claims 1 and 4-7 are amended. This action is made non-final after a RCE filed September 13 2004.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1-3 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re claim 1, the limitation "a comparison unit" in line 12 is unclear whether is it the same comparison unit as cited in line 9. For examination purposes, the examiner considers it is the same comparison unit as cited in line 9. Thus, the limitation must be cited as "the comparison unit" in line 12.

Thus, claims 2-3 are also rejected for being dependent on the rejected based claim

1.

Re claim 5, the limitation "the adder unit complete" in line 10 lacks antecedence basis. Throughout claim, the adder unit was not introduced. For examination purposes, the examiner disregards this limitation.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Oberman et al. (U.S. 6,298,367).

Re claim 4, Oberman et al. further disclose in Figures 4 and 6 a machine readable medium containing a data structure (130) having an instruction therein for determining which values from a local store containing floating point values to send to a floating point execution unit (From Input Unit 210 and Execution Engine 130 in Figure 4), and in parallel to a compare unit (308 and {330;340} these two units are fed with operands in parallel), where compare unit and floating point execution unit (middle portion of Figure 6) are operatively coupled to an EAC value calculator (320) to provide a rounding choice (35) upon having an adder unit complete the addition and communicate the choice to the adder unit (col. 18 lines 24-26 wherein right after completion of addition 340 the selection or choice would be made by the selection unit 350).

Re claim 5, Oberman et al. further disclose in Figures 5-6 and 9 method for providing a correct rounding choice for floating point subtraction (202 control) comprising: (a) providing a first floating point value having a sign, an exponent, and a mantissa (M_A and E_A by unit 210 in Figure 5); (b) providing a second floating point value

Art Unit: 2124

having a second sign, a second exponent, and a second mantissa (M_B and E_B by unit 210 in Figure 5); (c) performing a compare (308) of two floating point values (E_B and E_A) while starting a subtraction of first and second mantissas (e.g. 310A); (d) calculating an end-around-carry value using results from compare (350); (e) using end-around-carry value to calculate a rounding choice (320); and, (f) providing rounding choice upon having an adder unit complete subtraction is complete (col. 18 lines 24-26 wherein right after completion of addition/subtraction 340 the selection or choice would be made by the selection unit 350).

Re claim 6, Oberman et al. further disclose in Figures 5-6 and 9 method for providing increased parallelism in a processor comprising: (a) providing a first floating point value having a sign, an exponent, and a mantissa (M_A and E_A by unit 210 in Figure 5); (b) providing a second floating point value having a second sign, a second exponent, and a second mantissa (M_B and E_B by unit 210 in Figure 5); (c) starting in parallel a compare of first and second floating point values (308) and an addition (330 and 340) of first and second floating point values (308 and {330;340} these two units are fed with operands in parallel), where addition is using the 2's complement form of second mantissa (336 in Figure 7); (d) using compare results to calculate an end-around-carry value (320); and (e) providing a round choice upon having addition is completed (col. 18 lines 24-26 wherein right after completion of addition/subtraction 340 the selection or choice would be made by the selection unit 350).

Art Unit: 2124

Allowable Subject Matter

7. Claim 7 is allowed.
8. Claim 1 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.
9. Claims 2-3 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

10. Applicant's arguments filed 08/13/2004 have been fully considered but they are not persuasive.

- a. The applicant argues in page 8 for claim 4 that the cited reference by Oberman does not disclose the EAC value is not computed in parallel with the adder unit, similarly for claims 5 and 6.

The examiner respectfully submits that cited reference clearly disclose the cited above limitation in Figure 6 wherein the adder unit (330 and 340) and the EAC value calculator (320) are separate, independent, and operated in parallel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chat C. Do whose telephone number is (571) 272-3721. The examiner can normally be reached on M => F from 7:00 AM to 5:30 PM.

Art Unit: 2124

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chaki Kakali can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chat C. Do
Examiner
Art Unit 2124

November 18, 2004



ANIL KHATRI
PRIMARY EXAMINER